COVID-19 Patient Acceptance to Monoclonal Antibody Infusion: A Single Medical Center Experience

To the Editor: As emergency departments and hospitals have become inundated with patients with coronavirus disease 2019 (COVID-19), several treatment modalities have been investigated to help improve COVID-19 symptoms and reduce hospitalizations. Bamlanivimab was approved under Emergency Use Authorization (EUA) by the Food and Drug Administration (FDA) on November 10, 2020.[1] Administration of casirivimab and imdevimab together also was approved shortly after on November 21, 2020.[2] After FDA approval for EUA, these medications were released by the federal government to the states. Each state then determined how many doses it would send to meet the requests of interested medical systems.

Shortly after EUA for bamlanivimab, our medical center established an after-hours infusion center to administer these infusions to COVID-19-positive outpatients. We created protocols to screen for EUA-approved risk factors, educate, and consent outpatients for these infusions via our already-established COVID-19 Virtual Clinic.[3] We trained staff to carry out the protocols involved for each treatment option. The risk criteria for patients are identical for both infusions, so patients are offered one medication or the other based on our available supply from the state.[1,2]

Our facility began administering infusions of bamlanivimab on November 21, 2020. We first administered casirivimab and imdevimab on December 7, 2020. During the first 10 days of our infusion operations, we had a 50% (48/96) acceptance rate, and during the last 10 days, the rate was 63% (56/89) $P = 0.0022$. By December 10, 2020 and 20 days into this process, 104 patients who qualified under EUA risk criteria consented to a monoclonal antibody infusion. By January 21, 2021 and 2 months into this process, 493 patients who qualified under EUA risk criteria consented to a monoclonal antibody infusion. Overall, 56% (104/185) of patients at day 20 and 90% (493/545) at day 60 consented. Bamlanivimab had a 52.5% (84/160) rate at day 20, and a 94.2% (340/361) consent rate at day 60. Casirivimab and imdevimab had a consent rate of 80% (20/25) $P = 0.00498$ at day 20 and an 83.2% (153/184) $P = 0.00002$ consent rate at day 60.

Despite the long-awaited development of treatment options for COVID-19 in the outpatient setting, we found that only 56% of patients meeting EUA risk criteria were willing to consent to a monoclonal antibody infusion during the first 20 days offered. We believe that these lower would be higher, but we believe that these lower-than-anticipated consent rates likely reflect public comfort with these new treatment options, along with this cohort of patients have mild to moderate symptoms not requiring hospitalization as required by the inclusion criteria outlined by the EUA. We did observe that the percentage of those who consented to infusion increased over time. By day 60, we saw the consent rate increase to 90%. This may be a reflection of positive media coverage and perhaps also a reflection of staff comfort and knowledge of the infusions during the consenting process, increasing patient comfort over time.

As more patients receive monoclonal antibody infusions, we hope that sufficient safety and efficacy can be demonstrated for full FDA approval, so that more patients can become eligible for monoclonal antibody infusions available to help improve COVID-19 patient outcomes.

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